Ultrasonic Testing Instrument Selection Guide

Product / Function	PR300[1]	AD100	Compact Pulser	PCIPR300[1] PCIPR300T	PCIUT3100[2] PCIUT3100T	DSPUT5000[2]	DSPPR300[1]	USBUT350[2]	UTM[2]	PRM[1]
Descriptions	ISA bus P/R board	ISA bus A/D board	Desktop & Remote Pulser/ Receiver	PCI bus Pulser/ receiver board	PCI bus P/R and A/D board	PCI bus P/R and A/D board w/ DSP	PCI bus P/R board w/ DSP	USB P/R and A/D device	4 channel P/R and A/D board	4 channel P/R board
Computer interface	ISA Bus	ISA Bus	RS232 serial port	PCI Bus	PCI Bus	PCI Bus and RS232	PCI Bus and RS232	USB 2.0	PCI Bus	PCI Bus
Operating systems supported by SDK	Windows 3.1/95/98	Windows 3.1/95/98	Windows 98/2000/XP	Windows 98/2000/XP	Windows 98/2000/XP	Windows 2000/XP	Windows 2000/XP	Windows 2000/XP	Windows 98/2000/XP	Windows 98/2000/XP
# of channels	1*		1	1*	1*	1*	1*	1 to 4	4	4
Analog to digital conversion rate		100 MSPS			100 MSPS	100 MSPS		50 MSPS	100 MSPS	
Data transfer rate to computer RAM		1.6 MBPS			8 MBPS	80 MBPS		40 MBPS	8 MBPS	
On board memory		8k samples (128k optional)			16k samples (256k optional)	800k samples		8k samples	16k samples (256k optional)	
Amplitude gain correction				√	√	√	√	√	√	√
Transducer frequency range	1 to 10 MHz		1 to 50 MHz	1 to 10 MHz (25 MHz optional)	1 to 10 MHz (25 MHz optional)	1 to 10 MHz (25 MHz optional)	1 to 10 MHz (25 MHz optional)	1 to 10 MHz	1 to 10 MHz (25 MHz optional)	1 to 10 MHz (25 MHz optional)
Pulse voltage	300V		300V (350V optional)	300V (350V optional)	300V (350V optional)	300V (600-900V optional)	300V (600-900V optional)	300V	300V (350V optional)	300V (350V optional)
Max. quadrature encoder counters	2			4	4	6	6	2	4	4
External clock option for A/D		√			√	√			√	
Sync out connector option	√		√	√	√	√	√	√	√	√
TTL Digital I/O option	6 inputs 24 outputs			16 inputs/outputs	16 inputs/outputs	16 inputs/outputs	16 inputs/outputs	16 inputs/outputs	16 inputs/outputs	16 inputs/outputs
Additional 14-bit A/D converters				2	2	2	2		2	2
2 micro second wide pulse option				√	√	√	√			
20 kHz to 10 MHz tone burst pulser				√	√	√	√	√	√	√
Maximum PRF	1 kHz		5 kHz	5 kHz	5 kHz	5 kHz (20 kHz optional)	5 kHz (20 kHz optional)	1 kHz	5 kHz	5 kHz
Applications	These two boards work together to build an ultrasonic testing system. But they are for old ISA bus computers.		Low cost stand alone pulser/ receiver and high frequency remote pulser	These two boards are used for medium speed application, ultrasonic research and education purposes.		These two boards are used for high speed applications such as production line inspection. The on-board DSP chip can process the data by itself.		Low cost UT device for laptop and desktop computers.	Same as PCIUT3100 but with 4 channels on one board.	Same as PCIPR300 but with 4 channels on one board.

1. These boards are pulser/receiver only. They can work with third party analog to digital converter boards or oscilloscopes to view the output signal.
2. These boards are all-in-one ultrasonic testing boards. Ultrasonic signal can be viewed and processed with free scope software or user's own software

* The number of channels can be expended up to 256 channels with DT16B and DT8B multi-channel switching boards.

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